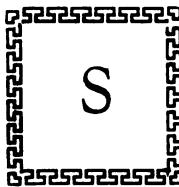


## EIGHTY YEARS OF PUBLIC HEALTH IN NEW YORK CITY \*

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SIR Ronald Ross once wrote that most people take the great medical discoveries for granted because they have no conception of the vast number of workers and the years of effort that were necessary to make those discoveries possible. The present advanced state of public health is not due to any one person. It exists today because many men and women dreamed and planned and labored. They worked ceaselessly until their theories were translated into actualities.

This year marks the eightieth anniversary of the founding of the Department of Health of the City of New York. However, that doesn't mean that it is only eighty years that the City administration has been interested in the health of the people. Soon after the Revolutionary War, attention was given to the health problems of the day. These consisted, for the most part, of epidemics of yellow fever that reached New York and Boston. In 1798 the inhabitants of this City were panic-stricken by the rapid spread of this dread disease, and they fled as far north as Greenwich Village hoping to outdistance it. At that time New York City had a population of 60,000. Two-thirds of the residents were stricken with yellow fever, and of these 1,500 died. Sixteen of the forty physicians practicing lost their lives in that one epidemic. Up to that time the City had no power to make health regulations, but the need for such power in order to meet emergencies was recognized and, in 1799 the State Legislature granted the City authority to pass its own health laws.

The first written evidence of the existence of health administration in New York City is the report made in 1806 by John Pintard who was City Inspector during the first decade of the nineteenth century. The exact date when he took office is uncertain but he was appointed March 26, 1804. The report was addressed to DeWitt Clinton who was

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Mayor of the City and President of its Board of Health.

Pintard recorded that six hundred persons had died of yellow fever in 1805. In that year the population of New York City was 75,000. This made the death rate from yellow fever 8 per 1,000 of population.

The City Inspectors who served in the early part of the century were keenly aware of the importance of accurate vital statistics. In his report of 1810 Inspector Pintard pointed out that the statistics of the day could not be depended on in every instance because of incomplete and, in some cases, erroneous reporting. He felt that accurate records would make "bills of mortality" of incalculable benefit not only to physicians but to all interested in the health and welfare of the people.

City Inspector Dunnell in 1838 also called attention to the need of reliable statistics. He was the first inspector to recommend the maintenance of a registry of births and marriages. Cornelius B. Archer, City Inspector in 1845 and 1846, succeeded in securing the enactment of a law providing such registration. It was not very effective because there was no penalty for failure to report. Archer also urged improved sewerage, and the establishment of a hospital for pestilential and epidemic diseases. His successor was A. W. White who labored unceasingly to have the City's vital statistics accurate. White was also very much interested in the nomenclature of disease. He recommended that a complete sanitary survey be kept in the office of the City Inspector. He was the first inspector to make such a survey. In his report of 1850 he called attention to the salutary effect the introduction of Croton water six years earlier had had on the health of the people.

Apparently convinced of the value of the recommendations of his predecessors regarding vital statistics and analyses of sanitary conditions, Thomas K. Downing, City Inspector from 1852 through 1854, established two bureaus, that of Sanitary Inspection and that of Registry and Statistics. These bureaus have remained as part of the organization of the Health Department.

Inspector Morton who served from 1855 through 1857 was interested chiefly in sanitary matters. Incidentally he kept very careful records, and the City's vital statistics of those years are quite dependable. He was a pioneer in recommending greater playground facilities for children and the construction of experimental dwellings. Thus the recognition that proper housing and adequate recreational facilities are intimately related to public health is not as recent as many people think.

Inspector Delevan in 1858 complained of crowded, ill-ventilated railroad cars. Time hasn't brought any radical change in this matter because similar complaints can be heard today.

Dr. Stephen Smith in his book, "The City That Was," referred to the City Inspectors as incompetent and corrupt. Some of them undoubtedly were, but it would be unfair to brand all of them as such. Many, as those mentioned above, were honest, intelligent and capable men working under great handicaps. They succeeded in instituting measures which are recognized today as sound public health practice.

You may wonder why mention is made of a Board of Health long before the establishment of the Metropolitan Board in 1866. Boards of Health were temporary committees called by the State Legislature to deal with specific emergencies such as yellow fever and cholera epidemics. A State law in 1807 empowered the Common Council of the City to appoint a Board of Health consisting of the Mayor, the Recorder, the Commissioners of the State Quarantine Office and five other members. This Board recommended measures to the Common Council for dealing with health emergencies. Very often the measures were much more costly than they were effective. Once when a cholera outbreak threatened, it was suggested to Mayor Fernando Wood that he call a meeting of the Board of Health. He replied that the Board was more to be feared than the pestilence.

It is important that we recall something about the City as we trace its public health development. In the first quarter of the last century the northern boundary of the built-up portion of the City was Canal Street. The City appears to have been reasonably clean and tidy. On the whole, housing was favorable, and gardens and orchards were common. There were no tenements. Water was obtained from private wells. Some purchased it from a company that piped it through wooden conduits laid beneath the streets, while others bought it a bucketful at a time from peddlers driving a horse-drawn cart resembling a modern street sprinkler. There were outdoor privies. Water closets didn't appear until after the introduction of Croton water in 1842. The general death rate was about 25 per 1,000 population, and the infant mortality ranged between 120 and 140 per 1,000 live births. It must be remembered, however, that the statistics weren't entirely accurate at that time. New York City was relatively free of serious epidemics during the first quarter of the nineteenth century, although yellow fever which

had devastated the City in 1798 reappeared in 1805 and 1822.

In the second quarter of the century conditions changed rapidly. The City grew by leaps and bounds. The invention of the steam engine ushered in the industrial revolution. In 1845 a severe famine in Ireland caused thousands to emigrate to this country, and in 1848 the great social revolution which swept through Europe brought additional thousands of immigrants to our doors. The housing situation became acute. Poorly constructed houses were erected and cellars became living quarters. In the struggle for survival workers, especially the unskilled, were forced to work for less and less. The standard of living dropped sharply, and the panic of 1837 accelerated this drop. The City became increasingly insanitary. Three cholera epidemics, one in 1832, another in 1834 and the third in 1849, took nearly 10,000 lives. By 1850 the infant mortality rate had risen to 180 per 1,000 live births.

It was late in this second quarter of the century that the campaign for pure milk began, and surprising as it may seem this was incidental to a temperance crusade. The man who was responsible for calling attention to the need for reform in the milk industry was a prohibitionist named Robert Hartley. He found that the mash which remained after the whiskey had been made was sold to dairymen for feed. He visited barns and stables to see what effect this diet had on the cows. He found both the cows and the places where they were housed in a deplorable condition. The cows were undernourished, many of them diseased, and the places where they were kept were unbelievably filthy. In 1848 the Academy of Medicine which was then only a year old appointed a committee to study the milk situation. Despite its efforts and those of Frank Leslie, the publisher, very little was accomplished. More than sixty years were to pass before the people living in New York City had a safe and wholesome milk supply.

It was during this same second quarter of the nineteenth century that Edwin Chadwick, a lawyer living in England, put forth the thesis that the care of the health of the population was a function of good government. He had been influenced by Jeremy Bentham who, earlier in the century, had said, "All factors which influence the health of a community must be the concern of a legislature." In 1842 Chadwick made his famous "Report on the Sanitary Condition of the Labouring Population of Great Britain," which stimulated much interest. Six years later, a general Board of Health was created in England. Chadwick

was assisted by Southwood Smith, a physician. This partnership of law and medicine in behalf of public health was repeated in New York City a quarter of a century later when Dorman B. Eaton, a lawyer, and Stephen Smith, a physician, drafted the bill creating a Metropolitan Board of Health. In the opinion of as great an authority as the late Dr. William H. Welch, Eaton's contribution to health administration in this country ranks with that of Chadwick in England.

The third quarter of the nineteenth century brought with it a continuance of the rapid growth of the City with an accompanying increase in insanitary conditions. There was great dissatisfaction concerning the filthy condition of the streets and the general inefficiency of the health administration. It was a common practice to throw garbage and papers in the street, and these remained there for long periods of time. Dr. William Guilfooy who for many years was Registrar of Records in the New York City Department of Health was born in 1859 in the lower west side not far from the Washington Market. He told how youngsters in his day would earn a few nickels by standing at Broadway near City Hall with a broom, and when a lady or a gentleman wanted to cross the street, they would sweep a path through the muck.

In the early 60's, there were nearly two hundred slaughter houses in the City, many of them in thickly populated sections. Cattle, hogs and sheep were constantly driven through the streets, which were soon covered with their excreta. Blood and refuse from the slaughter houses added to the filth. Manure heaps from the numerous stables and farms were ever-present.

These facts were included in the report prepared by the Citizens' Committee of which Peter Cooper was president. The object of this Committee was to seek reform in all branches of municipal government. The bill for the establishment of a Health Department and a Board of Health in New York City was first drafted by Dr. Smith, Chairman of the Committee's Council of Hygiene and Public Health, and was put into final form by Mr. Eaton, the Committee's Counsel. It was passed by the Legislature in 1866.

Even prior to this time, namely in 1858, the Senate appointed a "Select Committee" to examine health administration in the city and to recommend legislation necessary to increase its efficiency. Apparently the report of this committee was not strong enough to bring about the needed change in health administration, for nothing was done. It was

for this reason that the Citizens' Committee was formed. Then, as now, intelligent citizens banded together to fight for essential reforms.

As organized under the Act of 1866, New York City's health administration was placed in the hands of a Board of Health for the metropolitan sanitary district of the State of New York. This district comprised the counties of New York, Kings, Westchester and Richmond, and the towns of Newtown, Flushing and Jamaica in the county of Queens. In 1870 the Board's jurisdiction was limited to the old City which included only the Boroughs of Manhattan and the Bronx. The first Board consisted of a president, appointed by the Mayor, four physicians who were sanitary commissioners, the health officer of the Port of New York and four police commissioners. A physician was appointed as sanitary superintendent in charge of the Bureau of Sanitary Inspection, and another physician was made Registrar of Vital Statistics. Mr. Eaton was named counsel. The Board of Health was empowered to make laws governing health and sanitation and to sit in judgment on violators. It is to the credit of the men who drafted the bill establishing the Board of Health that they recognized the need for giving it such broad and unprecedented powers.

During the first year of the Board's existence, there was a severe cholera epidemic in the City. Two army barracks were converted into hospitals and were placed under the supervision of Dr. Stephen Smith. Dr. Smith was also directed to organize a corps of physicians, some of whom would work in the dispensaries and others who would make house-to-house visits. Certain buildings were selected which could be used as temporary quarters for those families that would be removed from houses in which there were cases of cholera. The report of 1866 goes into considerable detail concerning the disinfectants utilized. Those most frequently employed were sulphate of iron, chloride of lime and soda, permanganate of potash, carbolic acid, and sulphur for fumigation.

It must be remembered that when the Health Department was formed, the germ theory of disease was still unknown and the chief function of the Department was the elimination of nuisances and the improvement of sanitation. Epidemics were fought by trying to neutralize the noxious gases in the atmosphere, gases which were the result of putrefying animal and vegetable matter.

It was the sanitary superintendent, Dr. Edward B. Dalton, who or-

ganized an ambulance service for Bellevue Hospital in 1869. Dr. Dalton, a colonel in the Civil War, had had considerable experience with the transportation of wounded soldiers. The removal of cases of smallpox had formerly been under the jurisdiction of the metropolitan police, but was now transferred to the Board of Health. Thus, the first satisfactory hospital ambulance service in New York City originated with the Health Department.

According to its second annual report, the Board of Health was concerned with the great prevalence of venereal diseases in New York City. It recommended that all hospitals and dispensaries receiving financial assistance from the State be obliged to treat venereal diseases.

In 1868 and 1869, important activities of the Department of Health included: Fixing a standard for illuminating oil; installing public drinking fountains in various parts of the city; erecting a public comfort station at Astor Place; taking action against the escape of offensive odors from lime and shellburning establishments; making a city-wide survey of tenement houses; and providing for the destruction of dogs believed to be rabid.

Although not established as a Bureau until many years later, the beginning of the Food and Drug Division was made in 1868 with the appointment of Professor Charles F. Chandler as chemist to the Department. Chandler's analyses showed that a fraud was being perpetrated on the public by the systematic dilution of milk with water. He estimated that the dilution was costing the people of this City about \$12,000 a day. In 1869 he turned his attention to the cosmetics that were being sold in the city. This was in response to a resolution of the Board that he examine hair tonics, washes and restoratives to find out if they contained injurious matter. His analyses revealed the presence of considerable quantities of lead. The next year he continued his examination of cosmetics and said, "Periodical publication of poisonous cosmetics would undoubtedly diminish the evil to a great extent."

By 1870, two more bureaus had been added to the Health Department—the Bureau of Street Cleaning and the Bureau of Sanitary Permits. In that year also, 200 cases of yellow fever occurred on Governor's Island, the first appearance of this disease in New York City since 1822. Dr. J. C. Nott, a physician practicing in this city, leaned strongly towards the germ theory of disease in discussing the nature and spread of yellow fever. He even suggested that it might be com-

municated by insects.

In 1871 there were reported in New York City 3,084 cases of smallpox with 805 deaths from that disease. In the same period, there were 146 cases of typhus fever. During that year, 100,000 persons were vaccinated.

The subject of infant mortality wasn't given much consideration until 1874 by which date the City's rate had climbed to approximately 240 per 1,000 live births. Then there was clamor for some action that would halt the steady rise. A leaflet on infant care was printed in simple language and distributed to tenement house dwellers. In the same year the Board of Health was confronted with the smoke nuisance created by the New Haven, Harlem and Hudson River railroads above 42nd Street. The Board condemned this as detrimental to public health and appointed a committee to confer with the superintendents of the railroad who, the report states, were most cooperative and did what they could to reduce the smoke to a minimum.

Smallpox was a serious problem in 1874 and the Legislature transferred the smallpox hospital from the jurisdiction of the Commissioners of Charities and Corrections to the Health Department, changing its name to Riverside Hospital. During the winter of 1874 and 1875, two thousand cases of smallpox were reported. Of the 1,025 which were allowed to be treated at home, 50 per cent died. In October, 1874 a corps of vaccinators was organized, and more than 126,000 individuals were vaccinated. Over \$1,200 worth of vaccine was sold to physicians, druggists and health departments outside of the City. Some 24,000 quill points were distributed free of charge to charitable institutions. At the time that the corps was organized, a bill was passed by the Legislature providing for the establishment of a laboratory for the preparation of vaccine virus and for the sale of any surplus. The money received constituted a fund which was used by the Board of Health to promote vaccination.

Diphtheria was prevalent in 1874. The Board of Health prepared and distributed leaflets describing what was then known about the disease. An intensive study of diphtheria was made with special emphasis on its micropathology.

In 1875 following the death of four individuals from hydrophobia, Dr. Charles R. Russell, sanitary inspector, recommended that dogs that bit human beings should not be destroyed immediately but should



be kept under close surveillance until the suspicion of rabies was allayed or confirmed. He suggested further that "valuable and esteemed animals" which may have been in contact with rabid dogs should be kept under observation under suitable conditions for at least six months. Since there was no rabies vaccine in those days, nothing could be done for the person bitten beyond cauterizing the wound.

Because the infant death rate rose sharply during the summer months, a "summer corps" of physicians was organized in 1876 to visit every tenement house; to prescribe for the sick infants; advise on hygienic measures; and distribute leaflets on infant care. In 1879 the State Legislature passed a law requiring the Board of Estimate to appropriate each year the sum of \$10,000. This was known as "The Tenement House Fund," and enabled the Health Department to employ this special corps of physicians. This summer corps was in fact the beginning of the Division of Child Hygiene which was to be formally organized as a bureau some thirty years later.

In those days Health Department physicians, who were called sanitary inspectors, had many and varied duties. They investigated tenement houses for defective plumbing, drainage and ventilation; visited cases of smallpox, typhus fever and other contagious diseases; performed vaccinations; and made sanitary surveys. Many of them rose to be leaders in the field of public health.

The first important step in getting a safe milk supply for New York City was the work of Professor Chandler who described the common practice of watering milk. The next step was taken by Ernest J. Lederle, who in 1892 was Acting Chemist.\* Lederle seized the milk taken from diseased cows and had it inoculated into guinea pigs. The guinea pigs developed tuberculosis from which they eventually died. This demonstration made a great impression on all public health workers, and convinced any who might still have doubted, of the need for a safe and wholesome milk supply.

In 1896 the Sanitary Code was amended to require a permit from the Board of Health in order to sell milk in this city. Such permits are now recognized as the indispensable basis for the administrative control of a city's milk supply. Six years later orders were issued to a creamery outside city limits to discontinue the practice of removing

\* Dr. Lederle became Health Commissioner ten years later, serving from 1902 to 1904. He was reappointed in 1910 and remained in that position until 1914.

cream from milk and adding coloring matter and formaldehyde to it before offering it for sale in New York City. The creamery refused to comply stating that the Department had no jurisdiction outside of the city. The Board of Health called a public hearing at which the milk company was asked to show cause why its permit to sell milk in this city should not be revoked. Following this hearing at which the milk inspectors' report was confirmed, the permit was revoked and the company driven out of business in New York City. After that the authority of the Board of Health in safeguarding milk sold in this city, whether it related to a practice inside or outside the city limits, was firmly established.

Dr. Roger S. Tracy who was Deputy Registrar in 1893, divided the city into sanitary districts when computing his statistics. In this way he was able to secure statistical information regarding health and disease among groups of people of like race and nationality living under similar conditions. This was the forerunner of district health administration.

Until 1880, it was the practice of small towns north of New York City to send their cases of smallpox across the Harlem River into the City. After being apprehended by our Health Department, the patients would be placed in the Riverside Hospital on Blackwell's Island. When the Board of Health realized that the City was being imposed upon in this way, the practice was stopped and Westchester was forced to build a small shack near the East River for the accommodation of its smallpox cases. One of the first persons to be hospitalized in the Westchester shack was a Negro, and when the indignant citizens of the community discovered that he was being "harbored" in their midst, they burned the shack and forced the caretaker and his patient into a boat setting them adrift in the river. These two found refuge on North Brother Island where they took possession of an unoccupied house. This was the beginning of the use of North Brother Island for the housing of patients with contagious diseases. Some years later, a building was erected and all smallpox cases in the city were transferred to it.

In the spring of 1885, a hospital for diphtheria cases was built at the foot of East 16th Street and named for Dr. Willard Parker, Vice-President of the first Metropolitan Board of Health and a leader in public health. A few years later, the City of Brooklyn, having decided to take care of its own cases of contagious disease, purchased property

north of Kings County Hospital for buildings to be used for that purpose.

The discoveries of Pasteur and Koch greatly changed methods of public health administration. Through the work of these scientists and their pupils the true sources of communicable diseases were revealed. No longer was it believed that disease was caused by germs in the atmosphere. Drs. Biggs, Prudden and Loomis, consulting pathologists to the Health Department, were practically the first health authorities to recognize the advent of a new era in medicine. Their recognition was evidenced in 1887 by their report to the Board of Health recommending that tuberculosis be officially declared a communicable disease, and be made reportable. A bulletin of information on tuberculosis was prepared and distributed in the tenement house districts. However, it was not until 1894 that the Board of Health finally accepted the recommendation that tuberculosis be made "a notifiable disease." It was due to Dr. Hermann Biggs' untiring efforts that this essential act in the control of tuberculosis was adopted.

It was in 1892 that the first municipal bacteriological diagnostic laboratory in the world was established by the New York City Department of Health. This also was due to the persistence of Dr. Biggs who for years had asked for the establishment of a division of bacteriology. In that year there was an epidemic of cholera in Hamburg and the danger of its spread to New York was recognized by all. When the members of the Board of Estimate read in the newspapers that five steamships from Hamburg were being detained at Quarantine because of cases of cholera aboard, and that five deaths from that disease had occurred on one of them, they were almost panic-stricken. They gave an attentive ear to any plan for avoiding the threatened pestilence. In that mood they withdrew their opposition towards a laboratory and voted funds for its establishment. Thus in September, 1892 an emergency laboratory for the diagnosis of suspected cases of cholera was opened on the third floor of a building at 42 Bleecker Street. Dr. Hermann M. Biggs was placed in charge and given the title, "Chief of the Division of Pathology, Bacteriology and Disinfection." Similar emergency laboratories had been set up in Hamburg, Bremen, Berlin and London but these were all disbanded after the cholera emergency had passed.

Under the able guidance of Dr. Biggs, the Health Department's laboratory was continued and expanded to become an important part

of the Department's services. Soon after it was opened, Dr. Biggs stated that "the laboratory was to determine the differential diagnosis between follicular tonsillitis and diphtheria; to make scientific investigation in regard to the organisms of cholera, yellow fever, anthrax, etc.; to estimate the number of bacteria in Croton water; to make bacteriological examination of milk, meat and other foods; and to determine the value of different disinfectants."

In April, 1893, Dr. Biggs brought Dr. William H. Park into the laboratory and assigned to him the problem of working out a practical method of aiding physicians in the diagnosis of diphtheria. Park devised the diagnostic outfits for making throat cultures, and with the help of Dr. Biggs organized the system whereby such outfits could be made available in conveniently located drug stores, and collected daily by messenger. In January, 1894, the laboratory began sputum examinations for tubercle bacilli. Sputum bottles were also made available at drug store stations. Among the laboratory procedures that were soon added were examinations for gonococci, for malaria and for typhoid (Widal reaction).

The establishment of this laboratory had an important influence on public health throughout the country, in fact, throughout the world. It was the first municipally owned diagnostic laboratory. It inaugurated procedures which were adopted by other health departments. It stimulated studies which resulted in a great improvement in the laboratory diagnosis of communicable diseases.

News of the good results reported by Von Behring on the use of the antitoxin in the treatment of diphtheria reached New York. Under the sponsorship of the New York Herald a fund was raised for the making of antitoxin and its distribution to diphtheria patients who were unable to pay for it. The fund was turned over to the Department of Health to be expended under the supervision of an advisory committee of eminent physicians including Dr. Biggs and Dr. Park. This was the beginning of New York City's antitoxin laboratory.

In 1895, legislation was enacted authorizing the Department of Health to produce, use and distribute diphtheria antitoxin and other antitoxins and to sell any surplus products. The proceeds from the sales were to be utilized for further studies in the production and use of the various antitoxins. These funds made possible the organization of the Research Division of the Bureau of Laboratories.

As a result of a Tenement House Act passed in 1895, the Health Department's Corps of Sanitary Inspectors was increased. In accordance with the provisions of the new law, two inspections were made of each tenement house in the City. The total number of inspections and reinspections during the year amounted to over 169,000 and resulted in the discovery of some 18,000 violations. At that time, there were nearly 41,500 tenement houses in the City. About 600 of them were ordered vacated by the Board of Health as unfit for human habitation. The order was rescinded in all but 68 cases because the owners of the houses immediately started to make the necessary repairs. The houses that were vacated were either beyond repair or their owners didn't take the Health Department's order seriously. Vigorous action against unfit tenements continued during the following years as the Board felt that "no branch of the sanitary work carried on by this Department is of greater importance to the public health." In 1901 the Tenement House Department was created and jurisdiction over all dwellings housing more than two families was transferred to it.

In 1898 the City of New York added to its territory by the incorporation of the City of Brooklyn and of several neighboring towns and villages. This act was technically called the Consolidation Act. The task then fell upon the Board of Health to acquaint the citizens of the newly added communities with the requirements of the Sanitary Code.

In the report of that year, drug control activities of the Department came to the fore, with particular attention to headache powders containing coal tar derivatives which were sold without prescription, and to "catarrh cures" containing cocaine. Many so-called remedies for drunkenness were found to contain as much alcohol as whiskey. Lead and morphine were among the dangerous ingredients found in other proprietaries. The recommendation was made that all of these deceptions, frauds and dangerous practices be suppressed by law.

Although the Division of Child Hygiene was not established until 1908, school medical inspections began with the appointment of 150 physicians in 1897. They were attached to the Division of Contagious Diseases, and were interested chiefly in the inspection of children who had been ill. In 1902 seventeen public health nurses were assigned to schools to assist the physicians. This was the first time in the history of the United States that nurses were assigned to this kind of work. In 1908, when the Division was finally established and placed under

the direction of Dr. S. Josephine Baker, a pioneer in infant welfare, its functions included: The control and supervision of midwives; the reduction of infant mortality; the supervision of foundlings boarded in private homes; the inspection and sanitary supervision of day nurseries; the inspection of institutions harboring dependent children; the medical inspection and examination of school children; the vaccination of school children; and the enforcement of that part of the Child Labor Law relating to the issuance of employment certificates. Infant milk stations, the forerunner of the child health stations, were set up in 1911. Except that the various functions of this bureau have been extended to meet changing conditions, the organization today is substantially the same as it was when the Division was organized almost forty years ago.

In 1902 and 1903, Drs. Park and Holt did important research on the relation between infant mortality and bacteria in milk. This study showed that cholera infantum, or as it was popularly called "summer diarrhea," was not caused by any specific pathogenic organism, but was due to large numbers of ordinarily harmless bacteria. The delicate mucosa of infants could not withstand their attack. Thus the importance of determining the numbers of bacteria in milk and other foods as well as the kinds of bacteria was clearly demonstrated. In spite of this report it was not until eight years later that the Board of Health added to the Sanitary Code a section requiring the pasteurization of milk offered for sale in New York City.

In 1906 the Health Department extended its milk inspection in a manner that was entirely new for a municipality. Inspectors were sent to farms in New York State and other states where milk was produced for sale in this city. In this way the Department had control of the milk from the time it was produced until it was delivered to the consumer. During the following year, a system of examining and keeping under surveillance all typhoid carriers in New York City was initiated.

Although the Health Department's venereal disease activities were not placed in a separate bureau until 1934, Dr. Hermann M. Biggs initiated a comprehensive anti-venereal disease program in 1912. This embraced: the reporting of syphilis and gonorrhea by private physicians, hospitals and clinics; offering the services of the Health Department's laboratory for Wassermann tests free of charge (gonococcus smears had long been a routine service); establishment of special clinics

for diagnosing and treating venereal diseases (darkfield examinations, and distribution of salvarsan); providing special hospital facilities where irresponsible patients could be forcibly detained until no longer infectious; an educational campaign against patent nostrums and quackery in the treatment of venereal diseases. This pioneer program has served as a model for all the work now carried on in this field throughout the United States.

Biggs looked upon venereal diseases from the point of view of a physician and a public health administrator. Venereal diseases are communicable diseases and it is the duty of the Health Department to use every available means to stamp them out. At Bellevue Hospital where Biggs had a medical service, he ordered routine Wassermann tests on all the patients in his wards. The Department of Health ran a paid newspaper advertisement warning against quacks. Signs bearing similar warnings were put up in the toilet rooms of saloons, restaurants and other public places. Soon after his appointment as Commissioner of Health of the State of New York, Biggs secured the enactment of legislation prohibiting advertising for treatment of venereal diseases throughout the State.

During Dr. Lederle's second term as Commissioner of Health (1910 to 1914) compulsory pasteurization of milk was introduced. The Department of Health was reorganized into eight bureaus: Bureau of General Administration, Bureau of Records, Sanitary Bureau, Bureau of Child Hygiene, Bureau of Infectious Diseases (later named Preventable Diseases), Bureau of Food and Drugs, Bureau of Hospitals and Bureau of Laboratories. In 1914 the Bureau of Health Education was established; in 1928, the Bureau of Nursing.

In 1934 the Bureau of Tuberculosis was set up as a separate unit, and this was followed the next year by the establishment of the Bureau of Social Hygiene. These diseases were considered to be of sufficient importance to warrant this change in administration. Up to that time, they had been under the jurisdiction of the Bureau of Preventable Diseases. In 1929 the contagious disease hospitals including institutions treating tuberculous patients were transferred to the Department of Hospitals. Although the District Health Center program as we know it today began late in Commissioner Shirley W. Wynne's administration, the first experimental health center was set up in New York City in 1915 under the direction of Commissioner S. S. Goldwater.

Approximately ten years ago, a plan was worked out whereby medical students were given practical training in the health centers. This was a logical development of the growing importance of preventive medicine in the medical school curriculum. No public health program can be completely successful without the active participation of all the physicians in the community. The Health Department is, therefore, eager to do all it can to acquaint both medical students and physicians with the public health problems and the means at hand for combating them.

Dr. Linsly R. Williams, who was Managing Director of the National Tuberculosis Association and Director of The New York Academy of Medicine, once said, "Public health is not hygiene or preventive medicine. It is a concept of the conditions of health of the community. Efforts to conserve the public health include both those which affect the health of the community as a whole, and those which seek to prevent any individual or group of persons from affecting adversely the health of others."\* The last part of that statement is especially noteworthy today when the Health Department is making every effort to have food establishments operate in compliance with the provisions of the Sanitary Code. An ignorant or careless food handler is a definite health hazard. The owner is responsible for operating a food establishment in accordance with high sanitary standards, and the Health Department is determined that he be made to understand and fully meet that obligation.

In conclusion, it might be interesting to compare the health problems confronting us today with those faced by public health officers eighty years ago. Pestilence has been conquered. No longer are yellow fever, cholera, typhus and smallpox major health problems in New York City. The common communicable diseases that annually took the lives of thousands of children have been brought under control. The life expectancy at birth has increased from about 31 years in 1880 to over 65 now. Today increasing attention must be given to the diseases of later life. Public health officials, no less than physicians and social workers, must recognize their responsibility for making the added years gained through the saving of lives in the younger age groups, more healthful and more enjoyable. There must of course be no lessening of effort in the fight against communicable disease, but this

\* "Role of Practitioners in Modern Public Health Work."—*Preventive Medicine and Public Health*, Thomas Nelson and Sons, New York—1928.



fight must be extended to include the diseases that are more prevalent among the elderly, namely, diabetes, cancer, diseases of the heart, blood vessels and kidneys.

We in the New York City Health Department feel certain that we will continue to have the wholehearted coöperation of the physicians practicing in this city. Were it not for their unselfish and untiring efforts throughout the years the story would have been quite different. Many of the great advances that have been made in improving the public health would probably never have been recorded. Special mention should be made of the many helpful suggestions given to the Department of Health by the Committee on Public Health Relations of The New York Academy of Medicine.

The Health Department has had a distinguished history. Not one or two but a host of outstanding men and women have been associated with it, and have produced methods and techniques that have become standard for health departments throughout the world. Those of us who are charged with the responsibility of protecting the public health today hope that we, like our predecessors, can overcome the obstacles of ignorance, superstition, prejudice and apathy; that we shall not falter in the job ahead, but that we may be enabled to carry on in the tradition of those who traveled the road before us.

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